

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 14 and 15 are pending in the present application, Claim 15 having been added, Claim 14 having been amended, and Claims 9 and 13 having been canceled without prejudice or disclaimer. Claim 14 is amended to depend from new Claim 15. Support for new Claim 15 is found, for example, in original Claim 9, and in the specification at page 26, lines 4-9 and page 101, lines 8-16. Applicants respectfully submit that no new matter is added.

In the outstanding Office Action, Claims 13 and 14 were objected to; Claims 9 and 13 were rejected under 35 U.S.C. §102(b) as anticipated by Muramatsu et al. (U.S. Patent No. 5,675,564, hereinafter Muramatsu); and Claim 14 was rejected under 35 U.S.C. §103(a) as unpatentable over Muramatsu.

With respect to the objection to Claims 13 and 14, the outstanding Office Action states “positive order light and negative order light are NOT defined in the specification at all” (emphasis in original). Applicants respectfully traverse this position. The positive order light and the negative order light correspond to +1st order sub-beam A and -1st order sub-beam B, respectively.¹ Accordingly, Applicants respectfully submit that this ground of objection is traversed.

Applicants respectfully submit that new Claim 15 patentably distinguishes over Muramatsu. New Claim 15 is directed toward an aberration state detection apparatus configured to use an information medium including a recording layer or reflecting layer protected by a transparent layer which has predetermined thickness and may be accompanied by refractive index irregularity in a predetermined range and thickness irregularity in a predetermined range. The aberration state detection apparatus includes: a light sending

¹ See, specification page 94, lines 3-6; page 100, line 19 to page 101, line 7; page 101, lines 16-19; and page 121, line 9 to page 122, line 14.

system including an objective lens configured to focus light from a light source onto a recording surface of said information medium, wherein an optical aberration is given to said light; a detection optical system configured to detect light from said information medium; a detector configured to detect a state of occurrence of the optical aberration of said light, focused on the recording surface of said information medium by said light sending system, from a detection result obtained by said detection optical system; and an optical element configured to generate a positive order light beam and a negative order light beam from the light of said light source, wherein the detector is configured to detect the state occurrence of the optical aberration, using the positive order and negative order light beams, the positive and negative order light beams are beams of opposite polarities being given in advance, so that an optical aberration by which a first light beam is focused to a position farther from the objective lens than the surface of the recording layer of the information medium and an optical aberration by which a second light beam is focused to a position closer to the objective lens than the surface of the recording layer are of opposite polarities, and sizes of separate light spots formed by the positive and negative order light beams depend on the thickness irregularity of the transparent layer.

Muramatsu discloses an information reproducing apparatus that includes a light irradiation device that irradiates the information record surface of an optical disk with a first light beam and a second light beam such that the first light beam and the second light beam form light spots arranged along an information track. A predetermined coma aberration for canceling a coma aberration due to a tilt of the information record surface in a direction perpendicular to the information track is given to the second light beam by the light irradiation device. First reflection light is detected by the first photo-detector and a first light detection signal is generated, while the second reflection light is detected by the second photo-detector and a second light detection signal is generated. The tilt of the information

record surface at an area irradiated with the first and second light beams is detected by the tilt detection device, and the tilt signal is generated. Then, one of the first and second light detection signals which has the lesser coma aberration is selected by the selection device according to the tilt signal. Then the information is reproduced by the information reproducing device on the basis of the selected one of the first and second light detection signals.²

Muramatsu discloses that an original light beam is divided into three light beams; light beam B, light beam Bc+ and light beam Bc-.³ Muramatsu discloses that light beams Bc+ and Bc- are applied onto one information track.⁴ The outstanding Office Action equates light beams Bc+ and Bc- to the claimed “positive and negative order light beams.”⁵ However, light beams Bc+ and Bc- are not of “opposite polarity,” as defined by Claim 15.

Thus, Muramatsu does not disclose or suggest the claimed “the positive and negative order light beams are beams of opposite polarities being given in advance, so that an optical aberration by which a first light beam is focused to a position farther from the objective lens than the surface of the recording layer of the information medium and an optical aberration by which a second light beam is focused to a position closer to the objective lens than the surface of the recording layer are of opposite polarities, and sizes of separate light spots formed by the positive and negative order light beams depend on the thickness irregularity of the transparent layer.”

In view of the above-noted distinctions, Applicants respectfully submit that Claim 15 (and Claim 14 dependent thereon) patentably distinguish over Muramatsu.

² Muramatsu, Abstract and col. 2, lines 44-65.

³ Muramatsu, col. 9, lines 37-60.

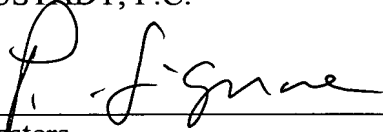
⁴ Muramatsu, col. 9, lines 61-62.

⁵ Office Action, page 5.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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